REMARKS

The Office Action dated November 3, 2008 was received and carefully reviewed.

Prior to this response, claims 1-47 were pending in the subject application. By this response, claims 1-3, 9, 14, 15, 22, 25, 26, and 32 are hereby amended to clarify the invention, and not for reasons of patentability. Claim 28 is hereby canceled without prejudice or disclaimer. No new claims have been added. Accordingly, claims 1-27 and 29-47 are currently pending in the subject application.

Support for the newly-added feature of claims 1-3, 9, 14, and 15 can be seen, e.g., in FIGS. 6B-6D and 20, as well as the corresponding description in the specification as originally filed.

Applicants respectfully request reconsideration and allowance of the above-identified application in view of the above amendments and the following remarks.

Allowable Subject Matter

Applicants thank the Examiner for the allowance of claims 16, 17, 19, 20, 26, and 36-47. Further, Applicants thank the Examiner for the indication of allowable subject matter in claims 10, 22, 27, and 28. The allowable subject matter of now canceled, dependent claim 28 has been incorporated into its base independent claim 25. Thus, Applicants contend that independent claim 25 is now in condition for allowance, and such action is hereby solicited.

Furthermore, Applicants will consider rewriting dependent claims 10, 22, and 27 into independent form including all the limitations of the base claim and any intervening claims, once all other claims have been allowed.

Claim Objections

Claim 1 stands objected to because in line 4 "a liquid-repellent region" should allegedly read as "the liquid-repellent region". However, Applicants contend this objection is improper since there is no antecedent basis of "a liquid-repellent region" prior to line 4 in claim 1. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to claim 1.

Claim Rejections - 35 U.S.C. § 103

Claims 1-9, 11-15, 18, 21, 23-25, 29-35, and 38 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hashimoto et al. (U.S. Pat. Pub. No. 2003/0083203 A1) (*Hashimoto*, hereinafter) in view of Kimura et al. (U.S. Pat. Pub. No. 2004/0142544 A1) (*Kimura*, hereinafter). Applicants traverse this rejection for at least the following reasons.

Applicants respectfully submit that present independent claims 1-3, 9, 14, 15, 18, 25, 31, and 32, and the claims dependent therefrom, are patently distinguishable over *Hashimoto* and *Kimura*, taken either alone or in combination, since *Hashimoto* and *Kimura* fail to disclose, teach, or suggest all of the features recited in the pending claims.

For example, independent claims 1 and 14 are directed to, *inter alia*, the features of performing a liquid-repellent treatment on a surface of an insulating film having an opening portion formed by dropping a dot including etchant, and that the lyophilic region is formed in an opening portion and a peripheral region of the opening portion of a surface of an insulating film. Applicants respectfully submit that *Hashimoto* and *Kimura*, taken either alone or in combination, fail to disclose, teach, or suggest at least these features of independent claims 1 and 14.

Independent claims 2, 3, 9, and 15 are directed to, *inter alia*, the features of forming a liquid-repellent region on a surface of an insulating film having an opening portion formed by dropping a dot including etchant, and forming selectively a lyophilic region in the liquid-repellent region so that the surface of the insulating film includes the liquid-repellent region and the lyophilic region in the opening portion and a peripheral region of the opening portion. Applicants respectfully submit that *Hashimoto* and *Kimura*, taken either alone or in combination, fail to disclose, teach, or suggest at least these features of independent claims 2, 3, 9, and 15.

Further, independent claim 18 is directed to, *inter alia*, the features of forming a source electrode and a drain electrode, forming a semiconductor film over the source electrode and the drain electrode, forming a first liquid-repellent region by a plasma treatment on a surface for forming a gate electrode in an upper portion of the semiconductor film, forming selectively a first lyophilic region in the first liquid-repellent region, and forming the gate electrode in the first lyophilic region of the surface of the semiconductor film by dropping a composition including a conductive material. Applicants respectfully submit that *Hashimoto* and *Kimura*, taken either

alone or in combination, fail to disclose, teach, or suggest at least these features of independent claim 18.

Furthermore, independent claim 31 is directed to, *inter alia*, the features of discharging a droplet onto the lyophilic region by a droplet discharging unit, in a treatment chamber including the droplet discharging unit and the light irradiation unit. Applicants respectfully submit that *Hashimoto* and *Kimura*, taken either alone or in combination, fail to disclose, teach, or suggest at least these features of independent claim 31.

Additionally, independent claim 32 is directed to, *inter alia*, the features of forming selectively a lyophilic region in the object to be treated in which the liquid-repellent region is formed by the light irradiation unit in the second treatment chamber so that the object to be treated includes the lyophilic region and the liquid-repellent region. Applicants respectfully submit that *Hashimoto* and *Kimura*, taken either alone or in combination, fail to disclose, teach, or suggest at least these features of independent claim 32.

On pages 3-4 of the Office Action, the Examiner purports that *Hashimoto* discloses "performing a liquid-repellent treatment on a surface", and "forming a liquid-repellent region on a surface", in his rejection of independent claims 1-3, 9, 14, and 15, and cites paragraphs [0087], [0097], and [0098] of *Hashimoto*as allegedly disclosing these features. However, paragraphs [0087], [0097], and [0098] of *Hashimoto* actually recite:

> **[0087]** The surface of this substrate on which the conductive film wiring is to be formed is subjected to a surface treatment in order that a predetermined contact angle with respect to the liquid containing conductive fine particles becomes 60 degrees or more, preferably 90 degrees or more, but 110 degrees or less.
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> **[0097]** Examples of other methods for surface treatment include a method of irradiating plasma at atmospheric pressure or in a vacuum. The sort of gas used for the plasma treatment can be variously selected in consideration of the surface material of the substrate, on which the conductive film wiring is to be formed, and the like.
>
> **[0098]** For example, tetrafluoromethane, perfluorohexane, perfluorodecane, and the like, can be used as a treatment gas.

Thus, as clearly seen above, *Hashimoto* is <u>completely silent</u> with regard to "performing a

liquid-repellent treatment on a surface of an insulating film having an opening portion formed by dropping a dot including etchant", as recited (emphasis added) in present independent claims 1 and 14. As seen in the above passages, *Hashimoto* is also completely silent regarding "forming a liquid-repellent region on a surface of an insulating film having an opening portion formed by dropping a dot including etchant", as recited (emphasis added) in present independent claims 2, 3, 9, and 15. Applicants respectfully submit that *Kimura* fails to make up for the above-cited deficiencies of *Hashimoto*. Accordingly, Applicants request reconsideration, and allowance of independent claims 1-3, 9, 14, and 15.

Regarding independent claim 18, the Examiner alleges on page 5 of the Office Action:

> Hashimoto shows, pertaining to claim 18, a method of manufacturing a thin film transistor, comprising the steps of: forming a first liquid-repellent region by a plasma treatment on a surface for forming a gate electrode in an upper portion of the semiconductor film; forming selectively a first lyophilic regon in the first liquid-repellent region; and forming conductive film in the first lyophilic region of the surface of the semiconductor film dropping a composition including a conductive material.

First and foremost, the Examiner has failed to provide any indication as to the portion of *Hashimoto*, which allegedly disclose the features recited in independent claims 18. For this reason, Applicants submit that the Examiner has not set forth a proper rejection of independent claim 18, and respectfully request reconsideration and withdrawal of the rejection.

However, Applicants submit that the source electrode and the drain electrode, the semiconductor film and the gate electrode are formed from a bottom to a top order, as recited in present independent claim 18, and it is Applicants' contention that *Hashimoto* fails to disclose the particular arrangement of features.

In addition, the Examiner purports on page 7 of the Office Action that "Kimura teaches pertaining to claim 18, manufacturing thin film transistors that conventionally include a source electrode, drain electrode and gate electrode (figure 1E; [0046])." However, Applicants respectfully submit that *Kimura* discloses a semiconductor film, source and drain electrodes, and

a gate electrode, in that order (see *Kimura*, FIG. 1D; paragraphs [0039]-[0040]). Consequently, *Kimura* fails to remedy the above-cited deficiencies of *Hashimoto*. Accordingly, Applicants request reconsideration, and allowance of independent claim 18.

Regarding present independent claims 31 and 32, as seen on page 6 of the Office Action, although the Examiner alleges that each and every feature of these claims is disclosed in paragraphs [00087], [0097], [0098], [0100], and [0102] in *Hashimoto*, *Hashimoto* merely discloses a conventionally apparatus for forming a film pattern, including an ink-jet head group 1 and a heater 15 (see *Hashimoto*, e.g., FIG. 7).

Applicants contend that the heater 15 of *Hashimoto* is not used for forming a lyophilic region. Thus, *Hashimoto* cannot disclose discharging a droplet onto the lyophilic region by a droplet discharging unit, in a treatment chamber including the droplet discharging unit and the light irradiation unit, as recited (emphasis added) in independent claim 31. Additionally, for at least the above-stated reasons, *Hashimoto* cannot disclose forming selectively a lyophilic region in the object to be treated in which the liquid-repellent region is formed by the light irradiation unit in the second treatment chamber so that the object to be treated includes the lyophilic region and the liquid-repellent region, as recited in independent claim 32.

Therefore, for at least the reasons set forth above, Applicants contend that *Hashimoto* and *Kimura*, taken either alone or in combination, fail to disclose, teach, or suggest each and every feature recited in independent claims 1-3, 9, 14, 15, 18, 25, 31, and 32. Consequently, the Examiner has failed to set forth a *prima facie* case of obviousness in the rejection of these claims, and Applicants request the reconsideration and the immediate allowance of the present independent claims.

Claims 4-8, 11-13, 21, 23, 24, 29, 30, 33-35, and 38 are allowable at least by virtue of their dependency from one of the independent claims, but also because they are distinguishable over the prior art. Accordingly, Applicants request reconsideration and allowance of these claims.

Claim 25 is allowable at least for the reasons set forth in the "Allowable Subject Matter" section of this response.

In view of the foregoing, it is submitted that the present application is in condition for allowance and a notice to that effect is respectfully requested. If, however, the Examiner deems that any issue remains after considering this response, the Examiner is invited to contact the undersigned attorney/agent to expedite the prosecution and engage in a joint effort to work out a mutually satisfactory solution.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 19-2380. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

NIXON PEABODY, LLP

Date: February 3, 2009

/Anthony J. Canning, Reg. #62,107/
Anthony J. Canning
Registration No. 62,107

NIXON PEABODY LLP
401 9th Street, N.W., Suite 900
Washington, D.C. 20004-2128
(202) 585-8000